

REMARKS

In the Office Action mailed on January 4, 2007, Applicant has been required, in accordance with 37 C.F.R. § 1.499, to elect one of the following groups of claims:

- Group I: claims 1-22, drawn to a process (designing a nuclear fuel assembly);
- Group II: claims 23-24, drawn to a combination apparatus (fuel assembly design system including a computer system and computer program); and
- Group III: claim 25, drawn to a subcombination apparatus (a computer program).

Applicant elects, with traverse, claims 1-22 (*i.e.*, Group I) for further prosecution on the merits. However, it is respectfully submitted that the Restriction Requirement should be withdrawn for at least the following reasons.

In support of the Restriction Requirement, the Office Action alleges that the inventions of Groups I, II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they allegedly lack the same or corresponding special technical features. Specifically, the Office Action alleges that the groups do not belong to a permitted combination of claims in different categories (*e.g.*, Group II and Group III are related as subcombination and combination; and Group I and Groups II & III are related as process and apparatus), citing to Annex B (Unity of Invention), Administrative

Instructions Under the PCT (hereinafter, "Annex B"). Applicant respectfully disagrees with the reasoning put forth in the Office Action for at least the following reasons.

First of all, PCT Rule 13.2 as it currently stands does not recite any permissible combination of different inventions, and does not reduce the compliance to the unity criteria to such combinations. As stated in the M.P.E.P., "PCT Rule 13.2, as it was modified effective July 1, 1992, *no longer specifies the combinations of categories of invention which are considered to have unity of invention.* ... The categories of invention in former PCT Rule 13.2 have been replaced with a statement describing the method for determining whether the requirement of unity of invention is satisfied. Unity of invention exists only when there is a technical relationship among the claimed inventions involving one or more special technical features. The term "special technical features" is defined as meaning those technical features that define a contribution which each of the inventions considered as a whole, makes over the prior art. The determination is made based on the contents of the claims as interpreted in light of the description and drawings." M.P.E.P. § 1850, I (emphasis added).

Furthermore, Annex B (a copy of which is attached hereto), to which the Office Action refers, lists examples of combinations that comply with the unity criteria; however, it does not provide an exhaustive list of combinations which comply with the unity criteria. As stated in Annex B, "[t]he method for determining unity of invention under PCT Rule 13 shall be construed as permitting, in particular, the inclusion of any one of the following combinations of claims of different categories in the same international application:" Annex B, (e) (Combinations of Different Categories of Claims); *see also* M.P.E.P. § 1850, III. A. That is, the fact that the Groups I, II and III as defined in the Office

Action do not correspond to an example of the combinations listed in Annex B does not provide sufficient evidence to reach the conclusion that the aforementioned Groups I, II and III do not relate to a single general inventive concept.

As stated in PCT Rule 13.2, “the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features.” Thus, the only relevant question in the present application is whether there is a technical relationship between Groups I, II and III involving one or more of the same or corresponding special technical features. In fact, Groups I, II and III all have in common the following features:

- establishing a falling speed of the control rod upon entry into the lower damping portion when the control cluster falls in an event of a shutdown of the nuclear reactor;

- establishing, based on the progression of the falling speed of the control rod in the lower damping portion, a maximum elevated pressure (ΔP_{MAX}) produced in the fluid contained in the lower damping portion; and

- establishing, based on the maximum elevated pressure (ΔP_{MAX}), a maximum circumferential stress ($\sigma_{\theta MAX}$) produced in the lower damping portion.

These features constitute the special technical features that Groups I, II and III have in common in accordance with PCT Rule 13. Therefore, Applicant respectfully submits that the unity of invention requirement has been met by the currently pending claims.

For at least the preceding reasons, Applicant submits that the Restriction Requirement covering claims 1-25 should be withdrawn.

The Commissioner is hereby authorized to charge any necessary fees or credit any overpayments under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account No. 11-0600. If for

any reason the Examiner believes that prosecution of this application would be advanced by contact with the Applicant's attorney, the Examiner is invited to contact the undersigned at the telephone number given below.

Respectfully submitted,
KENYON & KENYON LLP

Dated: February 5, 2007

By: 

Kevin T. Godlewski
Reg. No. 47,598

KENYON & KENYON LLP
One Broadway
New York, NY 10004

Direct Dial: 212-908-6203
Fax: 212-425-5288
General Tel: 212-425-7200

Attachment